

In the Specification

Please amend the paragraph beginning on page 2, line 24 to the following:

b¹ In disk drives for storage disk media the data tracks should be scanned with the highest precision in order to enable an error-free reproduction or an error-free recording process to be achieved. Therefore, the purpose of the control circuit in accordance with the invention is to ensure that in a disk drive 5 a scanning element (for example an optical unit), which reads or writes the data tracks of a storage disk medium, follows the data tracks as exactly as possible in its scanning point c as indicated by node 7, also in the case of vibrations or other deviations. For this purpose, the forces acting on the disk drive 5 are detected via suitable sensors 2. Suitable for this purpose are, inter alia, piezoelectric acceleration sensors capable of detecting three-dimensionally acting acceleration forces. The sensors 2 convert the acceleration forces detected as disturbance signals d into electric disturbance signals d_e , which can be processed in the control circuit. The electric disturbance signals d_e are applied to a so-called feedforward filter arrangement 1 and at the same time serve as an input signal for a digital signal processor (DSP) 4. For the definition of a feedforward filter reference is made to a contribution by Philips to the SAE conference paper no. 981152 (SAE International Congress and Exposition in Detroit, Michigan, 23-26 February 1998), which describes how a feedforward filter operates.

Please amend the paragraph beginning on page 3, line 6 to the following:

b² _____ The feedforward filter arrangement transfers an output signal to the disk drive 5 as disturbance-variable feedforward f , the disk drive 5 now corresponding to the controlled system in a control loop. Further inputs of the DSP 4 receive reference variables r , the deviations that occur in the control process in the form of error signals e and control variables u . The outputs of the DSP 4 now adapt, on the one hand, the parameters P_{ff} of the feedforward filter arrangement 1 and, on the other hand, the parameters P_c of a controller 3. For an optimum scanning process in the disk drive 5 the controller 3 should control the system so as to minimize the error signals e . This achieved by means of an adaptation of the parameters P_{ff} of the feedforward filter

arrangement 1 and the parameters P_c of the controller 3, in addition to the disturbance-variable feedforward f . In order to enable this adaptation to be made a so-called adaptation algorithm is executed on the DSP, which algorithm calculates the optimum parameters P_c and P_{ff} from the reference variables r , the error signals e as determined at node 6, the disturbance signals d_s and the control variables u . In this way, the controller 3 and the feedforward filter arrangement 1 can be controlled so as to respond to different external effects, such as brief impacts, shocks, sustained vibrations and component variations in the disk drive 5 as a result of temperature fluctuations, with appropriately adapted control and filter characteristics. Obviously, the same approach also applies to the occurrence of internal disturbances such as component tolerances, offsets, temperature and lifetime dependent parameters and soiled storage disk media.
